



June 23, 2016

BY ELECTRONIC FILING

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, et al.*, GN
Docket No. 14-177, IB Docket Nos. 15-256 and 97-95; RM-11664; and WT
Docket No. 10-112

Dear Ms. Dortch:

On June 22, 2016, Pradman P. Kaul, President, Hughes Network Systems LLC, and Jennifer A. Manner, Senior Vice President, Regulatory Affairs of EchoStar Satellite Operating Corporation and Hughes Network Systems, LLC (collectively, "Hughes"), met with Commissioner Ajit Pai and his legal advisor Brendan Carr.

In the meeting, Hughes discussed the attached talking points, which outlines ways the Commission can adopt a fair and equitable sharing regime in the 28 GHz (27.5-28.35 GHz) and 38 GHz (37.5-40.5 GHz) bands between Upper Microwave Flexible Use ("UMFU") and Fixed Satellite Service ("FSS") licensees.



Pursuant to the Commission's rules, this notice is being filed in the above-referenced docket for inclusion in the public record.¹ Please contact me should you have any questions.

Respectfully submitted,

/s/ Jennifer A. Manner

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cc: Brendan Carr

¹ 47 C.F.R. § 1.1206(b)(2).



The Record Supports the FCC Adopting a Fair and Equitable Sharing Regime in the 28 GHz and 38 GHz Bands for 5G and Satellite Broadband Services

Hughes Broadband Satellite Services: Building Satellites to Meet Growing Demand

- Hughes provides advanced satellite broadband services with speeds of as high as 15 mbps to over one million North American customers, including in the most rural and remote portions of the United States. With the launch of EchoStar XIX this fall, HughesNet will bring even higher speed services to U.S. customers upward of 25 mbps or higher and anticipates significant customer growth.
- Hughes is beginning the process of designing its next-generation broadband satellite - post EchoStar XIX- for deployment in the next few years. This satellite will bring advanced high-speed satellite services to U.S. customers. Further, Hughes is an investor in OneWeb, which is constructing a non-geostationary broadband satellite system that will be deployed later this decade, bringing complementary high-speed broadband satellite services to customers across the globe.
- Hughes utilizes the 27.5-28.35 GHz band (28 GHz band) for its gateway earth stations today, and has plans to utilize frequencies in the 37.5-40.5 GHz band (38 GHz band) for future gateway earth stations. Access to these bands on a protected basis is critical for the successful operation of its broadband services. Hughes anticipates that in the next five years it will need to operate a total of 50 to 100 gateway earth stations in these bands across the entire country.

Existing Assets Must Be Protected

- Under both the domestic and international tables of allocations, FSS is co-primary; by rule, the FCC has made FSS secondary to LMDS only. Based on this regime, Hughes and other satellite operators in the 28 GHz band have successfully coordinated the gateway earth stations they operate today. Failure to provide protection to existing earth station operations would negatively impact U.S. customers as Hughes could be forced to curtail its services to prevent harmful interference into 5G or could face interference into its satellites and gateways.
- To provide needed operational certainty to FSS operators in the 28 GHz band, the FCC must provide co-primary protection to all licensed gateway earth stations as



well as all those for which an application has been filed up until the date of 5G auctions or the relicensing of LMDS.

The FCC's Rules Must Create A True Sharing Regime Between 5G and Broadband FSS Gateway Earth Stations

- The FCC's Spectrum Frontiers NPRM provides the FCC an opportunity to create a true sharing regime in the 28 GHz and 38 GHz bands that supports the provision of satellite broadband and 5G services across the United States.
- To this end, Hughes recognizes the need to balance 5G and FSS gateway deployments; accordingly, Hughes supports limiting future gateway deployments to areas outside the largest urban cores.
- However, Hughes, like other satellite broadband operators, needs protection for its infrastructure, needs access to urban infrastructure, and must have some flexibility in earth station placement to achieve the geographic separation and other characteristics necessary to support the design of its satellites.
- In order to support the deployment and operation of broadband satellite earth stations, the FCC must afford FSS in the 28 GHz and 38 GHz bands co-primary status and enable them to enter into good faith coordination with UMFU operators to site their earth station deployments. By enabling true sharing of both services, U.S. consumers will benefit.
- In addition, the FCC should adopt limits on aggregate interference for UMFU operators to ensure that FSS space station receivers in the 28 GHz band are protected. Failure to do so risks unnecessary harmful interference into broadband satellite services.

Conclusion

By adopting a true sharing regime between 5G and satellite broadband operators, the FCC will ensure the most efficient use of the 28 GHz and 38 GHz bands, and create a workable model that can be utilized for other bands and services in the future.